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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/551,149

09/29/2005

Hidetoshi Kitaguchi

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EXAMINER

HUTCHINSON, SHAWN R

ART UNIT

PAPER NUMBER

1794

NOTIFICATION DATE

DELIVERY MODE

05/14/2008

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/551,149	<b>Applicant(s)</b> KITAGUCHI ET AL.	
	<b>Examiner</b> SHAWN R. HUTCHINSON	<b>Art Unit</b> 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. ____.                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>09/29/05</u> .  | 6) <input type="checkbox"/> Other: ____.                          |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 1-3 & 5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kato, et al. {Kato1} (US 4988449 A).

Regarding Claims 1, 2, & 5-7, Kato1 teaches compositions for providing fluid-permeability or wet-ability to polyolefin fibers and nonwoven fabric sheets ({Kato1} C2:L20-25). Four types of permeability-promoting compounds and their combinations including quaternary ammonium salts and phosphate salts are claimed ({Kato1} Claim 1). Kato1 is explicitly silent regarding specific combinations of ammonium and phosphate salts. Examples of the types of salts include distearyl dimethyl ammonium chloride and potassium stearyl phosphate, which correspond with Applicant's

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compounds taught ({Kato1} C6:L1-11 | {Applicant} [0022]). Furthermore, when, for example, the phosphate salt has integer values of  $m$  as 0 and  $n$  as either 1 or 3, Applicant's contingent claims of organic compounds are correspond with those claimed by Kato1 ({Kato1} Claim 1).

Kato1 teaches that 5- to 30-% of one or more compounds including the two salts comprise the fluid-permeable agent ({Kato1} Claim 2). The range of compounds Kato selects varies from 5- to 100- percent ({Kato1} Table 1). However, the relative weights of the two salts are not claimed. Nevertheless, it would have been well within ordinary skill in one of the art vary the amounts of quaternary ammonium salt and phosphate salt. Kato1 teaches compositions comprising a range of proportions in different formulations of individual salts ({Kato1} Tables 1 & 2).

Regarding Claim 3, the formula limitation is also covered by Kato1's formula for the phosphate salt based on the choice of aliphatic hydrocarbon groups for R-5 & R-6 ({Kato1} Claim 1). Regarding Claims 8, the agent is applied at rates of 0.1- to 0.5- weight percent ({Kato1} C5:L40-47).

At the time of the invention, it would have been obvious to one of ordinary skill in the art to vary the relative proportion of quaternary ammonium salt and phosphate salt in the composition for imparting water permeability to olefin fiber and nonwoven fabric {Kato1}. Kato1 implies that the salts can be combined in that one or more are selected amongst the surfactants ({Kato1} Claim 1), and teaches a motivation to optimize processability, permeability, and durability ({Kato1} C5:L11-27). Being a finite set of four types of surfactant compounds where combinations between them are claimed, it

would have been obvious and easily envisioned by one of ordinary skill in the art to select known materials for conventional uses with expected results. Thus, it would have been obvious to follow the teaching by Kato1 and obtain through routine experimentation the combination of quaternary ammonium salt and phosphate salt in relative proportions.

4. Claims 4 & 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kato, et al. {Kato1} (US 4988449 A) as applied to Claim 1 in further view of Kato, et al. {Kato2} (US 5258129 A).

As discussed above, Kato1 teaches a fluid permeable agent for providing fluid-permeability or wettability to polyolefin fibers and nonwoven fabric sheets. Regarding Claims 9, the agent is applied at rates of 0.1- to 0.5- weight percent ({Kato} Claim 1). Kato1 is silent regarding the inclusion of a modified silicone surfactant.

Kato2 teaches fluid permeable olefin articles comprising quaternary ammonium salts, phosphate salts, and silicone-modified surfactants. Regarding Claim 4, Kato2 teaches a silicone modified with a polyoxylalkylene of a substantially identical formula based on the selection of integers and R-groups ({Kato} Claim 1). The molecular weight, percent silicon, and percent polyoxyethylene moieties correspond with the range claimed by Applicant. The attributes of the surfactant are varied to optimize its durability and processability ({Kato2} C3:L52-57 & C3:L61-66). Adding the surfactant improves permeability and durability ({Kato2} C3:L58-60).

At the time of the invention, it would have been obvious to one of ordinary skill in the art to include modified silicone surfactants {Kato2} to the water permeability composition for olefin articles {Kato1}. The motivation would have been to improve permeability and durability ({Kato2} C3:L58-60). Thus, it would have been obvious to combine Kato1 with Kato2 to obtain the permeability composition for olefin articles comprising a modified silicone compound.

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Prior art is replete with the use of such quaternary ammonium salts and phosphate salt compounds in fibrous materials for wetting agents, antistatic agents, and fabric softeners.

### ***Conclusion***

Any inquiry concerning this communication should be directed to SHAWN R. HUTCHINSON whose telephone number is (571)270-1546. The examiner can normally be reached on 7 AM to 5 PM, M-H.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney can be reached on (571) 272-1284. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197. If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 or 571-272-1000.

/Shawn R. Hutchinson/  
Examiner, Art Unit 1794

/Carol Chaney/  
Supervisory Patent Examiner, Art Unit 1794